

Amendments to the Claims

Listing of Claims:

1-12. (Cancelled)

13. (Currently amended) Apparatus for filtering data symbols for a decision based data processing system, the apparatus comprising:

_____ (a) a buffer store operable to buffer-store a sequence of n sequentially received data symbols, wherein $n \geq 3$;

_____ (b) an nth-order median filter operable to calculate the minimum interval between each of the n buffer-stored data symbols and a plurality of nominal data symbols, the nth-order median filter further operable to filter out one data symbol from the n buffer-stored data symbols, wherein the calculated minimum interval for the filtered out one data symbol has a mean value for the n calculated minimum intervals, The apparatus of claim 12 wherein the median filter comprises

(b1) a plurality of calculation circuits, each calculation circuit operable to calculate a minimum interval between one of the n buffer-stored data symbols and the plurality of nominal data symbols;

(b2) a control circuit including (i) a sorting circuit for sorting the calculated minimum intervals according to their value and (ii) a selection circuit for selecting a mean minimum interval from the sorted minimum intervals; and

(b3) a multiplexer operable to deliver the buffer-stored data symbol associated with the selected mean minimum interval to the decision based data processing system.

14. (Currently amended) The apparatus of ~~claim 12~~ claim 13 wherein the buffer store is a FIFO register.

15. (Currently amended) The apparatus of ~~claim 12~~ claim 13 wherein n is an odd number.

16. (Previously presented) The apparatus of claim 15 wherein the median filter is a third-order median filter.

17. (Previously presented) The apparatus of claim 15 wherein the median filter is a fifth-order median filter.

18. (Previously presented) The apparatus of claim 13 wherein the decision based data processing system is a clock phase detector.

19. (Previously presented) The apparatus of claim 13 wherein the decision based data processing system is a carrier phase detector.

20. (Previously presented) The apparatus of claim 13 wherein the decision based data processing system is an equalizer.

21. (Currently amended) The apparatus of ~~claim 12~~ claim 13 wherein the plurality of nominal data symbols are stored in a register which is programmable.

22. (Currently amended) The apparatus of ~~claim 12~~ claim 13 where the mean minimum interval is a median minimum interval.

23-31. (Cancelled)

32. (New) The apparatus of claim 15 wherein the decision based data processing system is a clock phase detector.

33. (New) The apparatus of claim 15 wherein the decision based data processing system is a carrier phase detector.

34. (New) The apparatus of claim 15 wherein the decision based data processing system

is an equalizer.

35. (New) The apparatus of claim 15 wherein the plurality of nominal data symbols are stored in a register which is programmable.

36. (New) The apparatus of claim 15 where the mean minimum interval is a median minimum interval.